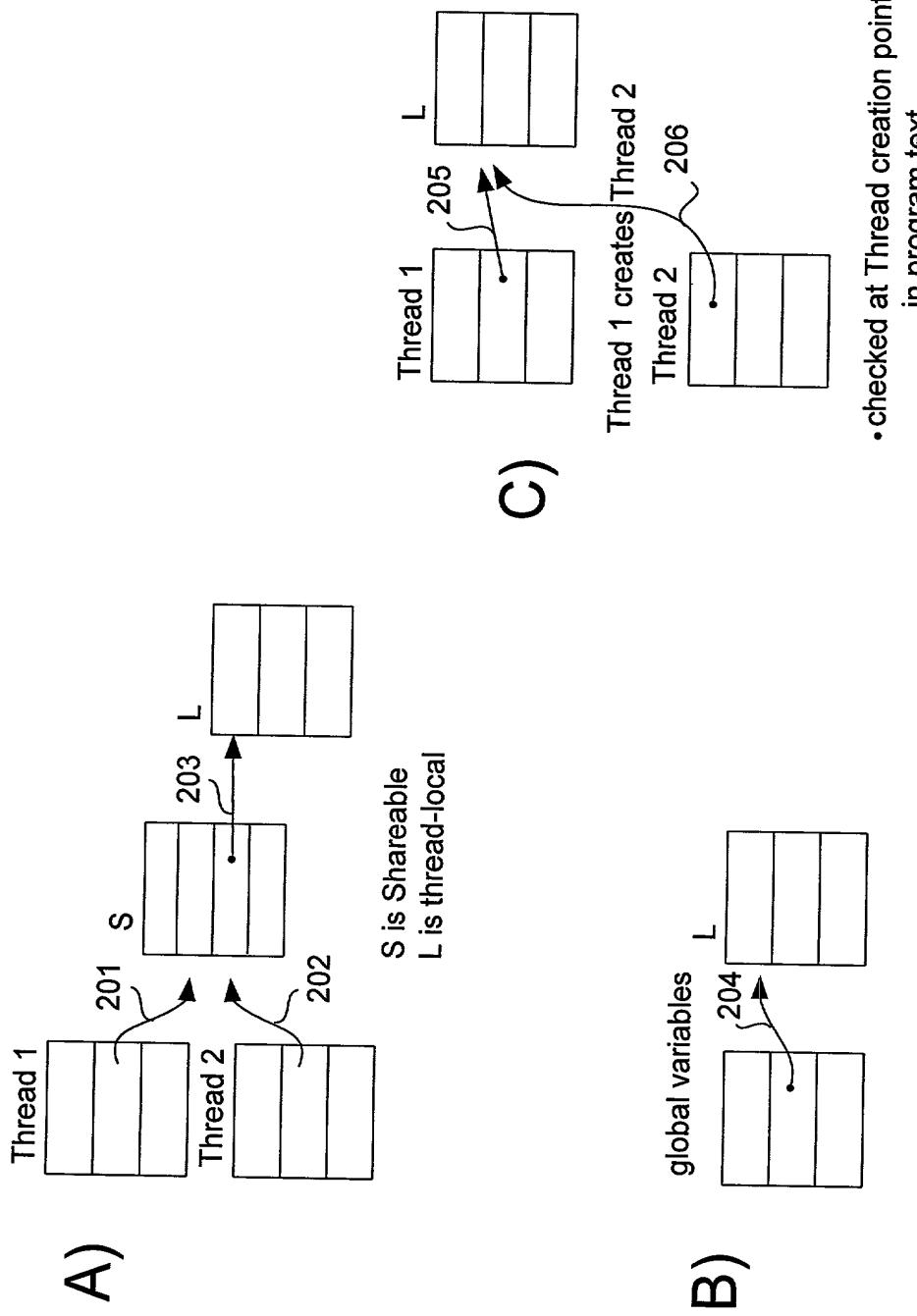


FIG. 1



- checked at Thread creation points in program text.

FIG. 2

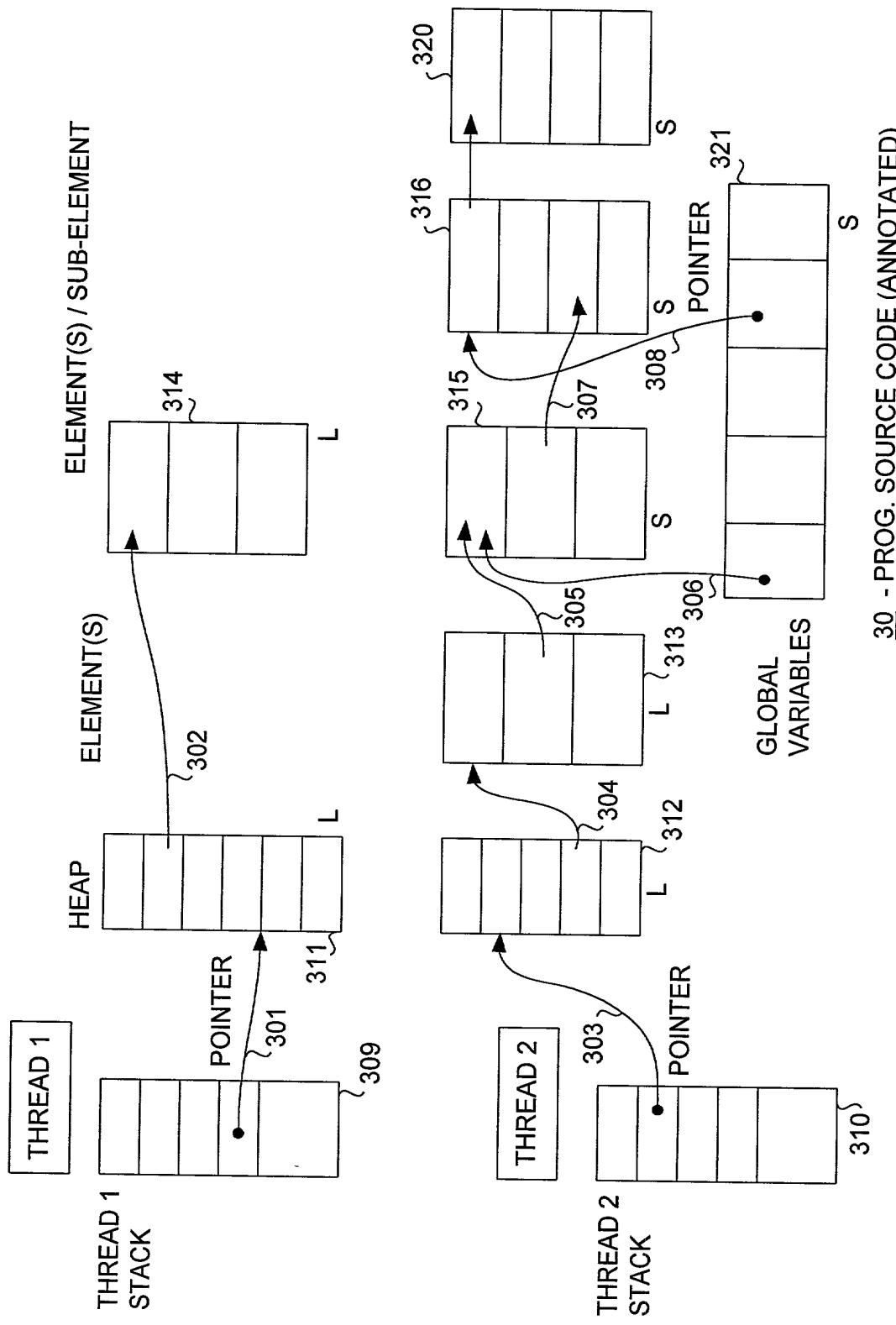
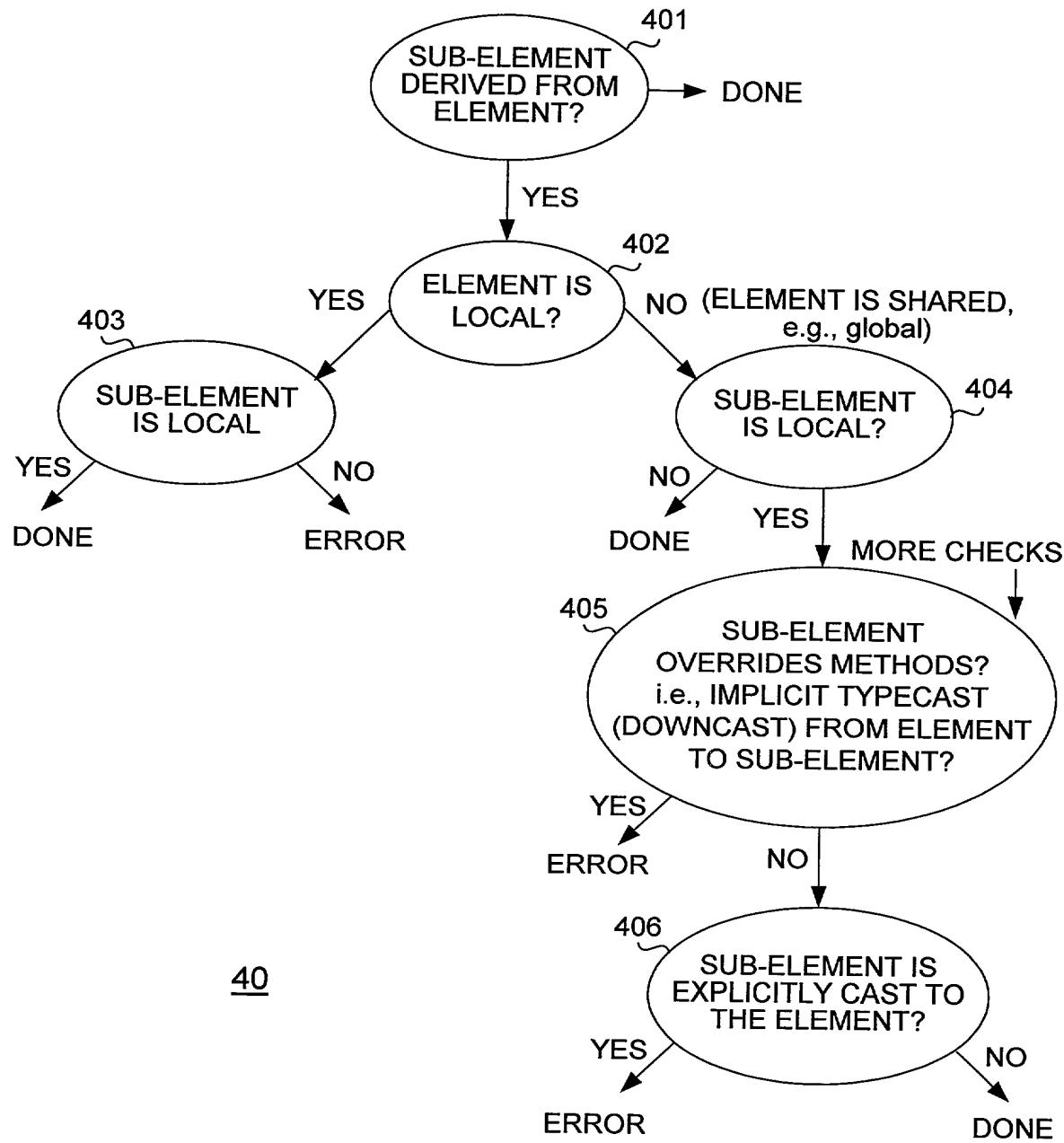


FIG. 3

**FIG. 4**

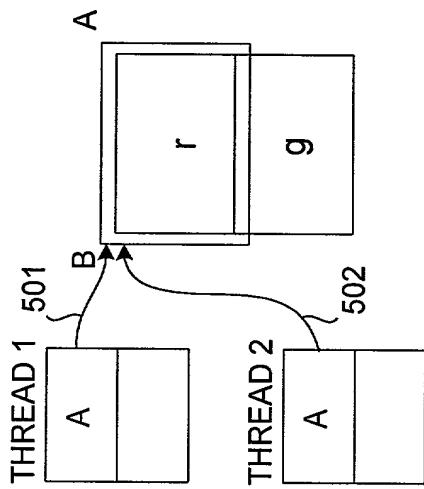
## MORE CHECKS:

thread shared class A {

```
Object f;
void foo() { ... }
}
```

thread local class B extends A {

```
Object y;
void foo() { ... this.g... }
} of type B
```



(typecasts)  
OK if no downcasts from A to B

- explicit c is of type A

$$d=(B)c$$

$$d.g$$

- implicit  
c is of type A (but actually points to a B object)  
c.foo().

Create a B object  
cast it to type A  
Pass it between threads  
Cast it back to type B  
and access fields of B.

FIG. 5

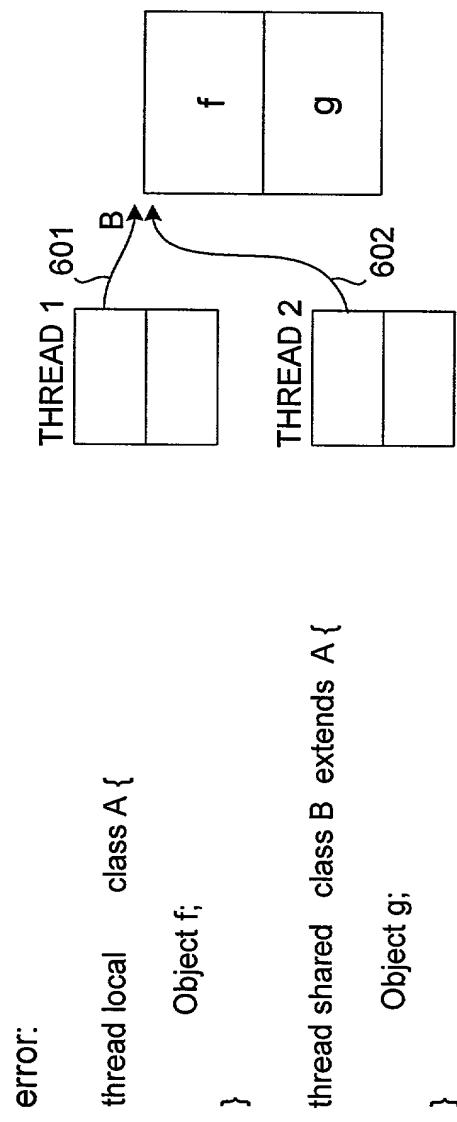


FIG. 6